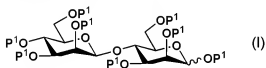


AMENDMENTS TO THE CLAIMS

1-2. (Cancelled)

3. (Previously presented) A method for preparing a trisaccharide (Man β 1 \rightarrow 4GlcN β 1 \rightarrow 4GlcN) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein, comprising

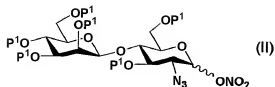
(1) a process of preparing a mannose disaccharide compound (a type of ManP¹ β 1 \rightarrow 4ManP¹) of the formula (I)



wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and the wavy line means that -OP¹ is linked at an axial or equatorial position, or mixture of both, by hydrolyzing a polysaccharide having mannose β -1,4-bonds and protecting OH groups of the resulting hydrolysate,

(2) a process of preparing a glycal compound, in which mannose of a reducing terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide (a type of ManP¹ β 1 \rightarrow 4ManP¹),

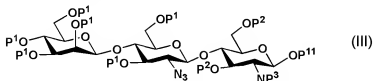
(3) a process of preparing an azide disaccharide compound (a type of ManP¹ β 1 \rightarrow 4ManP¹) shown with formula (II) in which a 2-azide group of mannose in a reducing terminal is linked at an equatorial position;



wherein P¹ is the same as described above, the wavy line means that -ONO₂ is linked at an axial or equatorial position, or mixture of both, by azidenitration reaction of the glycal compound above,

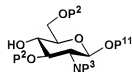
(4) a process of substituting the nitro group of the azide disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) with a leaving group selected from the group consisting of fluorine atom, chlorine atom, trihaloacetimidate, 4- pentenyl, alkylthio and arylthio, and

(5) a process of preparing a trisaccharide compound (a type of $\text{Man}\beta 1 \rightarrow 4\text{GlcNP}^1\beta 1 \rightarrow 4\text{GlcNP}^2$) shown with the formula (III);



wherein P^1 is an OH- protecting group, as described above, P^2 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, P^3 is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^{11} is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl,

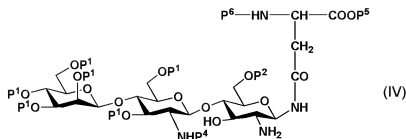
by a reaction of the product having the leaving group with amino-protected glucopyranoside shown with the formula;



wherein P^2 , P^3 and P^{11} are the same as described above.

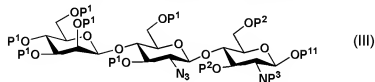
4. (Currently amended) The method for preparing a trisaccharide ($\text{Man}\beta 1 \rightarrow 4\text{GlcN}\beta 1 \rightarrow 4\text{GlcN}$) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein of claim 3, further comprising

(6) a process of preparing an asparagine-linked trisaccharide ($\text{Man}\beta 1 \rightarrow 4\text{GlcNP}^1\beta 1 \rightarrow 4\text{GlcNP}^2$) compound shown with the formula (IV);

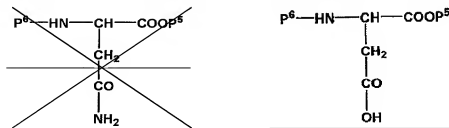


wherein P^1 and P^2 are independently OH-protecting groups, as described above, P^4 and P^5 are independently amino-protecting groups selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^5 is a carboxyl-protecting group which is t-Bu,

by deprotecting the P^{11} group of the compound (III),



wherein P^1 , P^2 and P^{11} are independently OH-protecting groups, as described above, and P^3 is an amino-protecting group, as described above, reducing the azide group to an amino group, protecting the amino group with an acetyl group, forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a reducing terminal, and coupling with a protected aspartic acid asparagine-derivative of the formula:



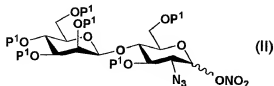
wherein P^5 and P^6 are the same as described above,

after introducing a $-N=C=S$ group at the reducing terminal.

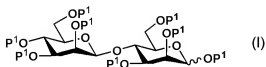
5. (Cancelled)

6. (Previously presented) A method for preparing an azide disaccharide (a type of

ManP¹β1→4ManP¹) shown with the formula (II) in which a 2-azide group of mannose in a reducing terminal is linked at an equatorial position;

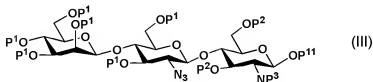


wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and the wavy line means that -ONO₂ is linked at an axial or equatorial position, or mixture of both, comprising a process of preparing a glycal compound, in which mannose of the reducing terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide compound (a type of ManP¹β1→4ManP¹) shown with the formula (I);



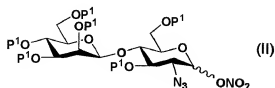
wherein P¹ is the same as described above and the wavy line means that -OP¹ is linked at an axial or equatorial position, or mixture of both, and subsequent azidenitration reaction of the glycal compound.

7. (Previously presented) A method for preparing a trisaccharide compound shown with the formula (III);



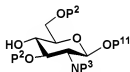
wherein P¹, P² and P¹¹ are independently OH-protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and P³ is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, comprising a process of substituting the nitro group of the azide disaccharide compound (a type of ManP¹β1→4ManP¹) shown with the formula (II) with a leaving group selected from the group

consisting of fluorine atom, chlorine atom, trihaloacetoimidate, 4- pentenyl, alkylthio and arylthio;



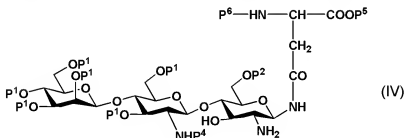
wherein P¹ is the same as described above, the wavy line means that -ONO₂ is linked at an axial or equatorial position, or mixture of both, and a 2-azide group of mannose in the reducing terminal is linked at the equatorial position,

and next, reacting the substituted compound having the leaving group with amino-protected glucopyranoside of the formula;

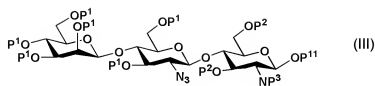


wherein P², P³ and P¹¹ are the same as described above.

8. (Currently amended) A method for preparing an asparagine-linked trisaccharide compound (Manβ1→4GlcNP¹β1→4GlcNP²) shown with the formula (IV)

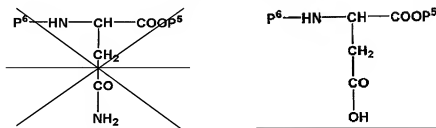


wherein P¹ and P² are independently OH- protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, P¹ and P⁶ are independently amino-protecting groups selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P⁵ is a carboxyl-protecting group which is t-Bu, by deprotecting the P¹¹ group of the compound (III),



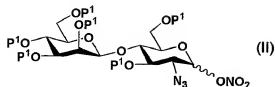
wherein P¹ and P² are the same as described above, P³ is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P¹¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl,

reducing the azide group to an amino group, protecting the amino group with an acetyl group, forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a reducing terminal, and coupling with a protected aspartic acid ~~paragine~~ derivative of the formula:



wherein P⁵ and P⁶ are the same as described above,
 after introducing a -N=C=S group at the reducing terminal.

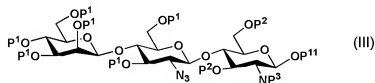
9. (Previously presented) An azide disaccharide (a type of ManP¹β1→4ManP¹) compound shown with the formula (II);



wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and the wavy line means that -ONO₂ is linked at an axial or equatorial position, or mixture of both.

10. (Previously presented) A trisaccharide compound (a type of

Man β 1 \rightarrow 4GlcNP¹ β 1 \rightarrow 4GlcNP²) shown with the formula of (III);

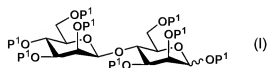


wherein P¹, P² and P¹¹ are independently OH-protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and P³ is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl.

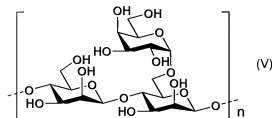
11-12. (Cancelled)

13. (Previously presented) A method for preparing a trisaccharide (Man β 1 \rightarrow 4GlcN β 1 \rightarrow 4GlcN) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein, comprising

(1) a process of preparing a mannose disaccharide compound (a type of ManP¹ β 1 \rightarrow 4ManP¹) of the formula (I)



wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, and the wavy line means that -OP¹ is linked at an axial or equatorial position, or mixture of both, by hydrolyzing guar gum or galactomannan of the formula (V);

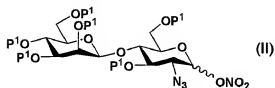


wherein n is an integer of 50 or more,

and protecting OH groups of the resulting hydrolysate.

(2) a process of preparing a glycal compound, in which mannose of a reducing terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$), and

(3) a process of preparing an azide disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) shown with formula (II) in which a 2-azide group of mannose in a reducing terminal is linked at an equatorial position;

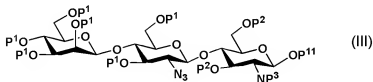


wherein P^1 is the same as described above, the wavy line means that $-\text{ONO}_2$ is linked at an axial or equatorial position, or mixture of both,

by azidenitration reaction of the glycal compound above,

(4) a process of substituting the nitro group of the azide disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) with a leaving group selected from the group consisting of fluorine atom, chlorine atom, trihaloacetimidate, 4-pentenyl, alkylthio and arylthio, and

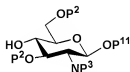
(5) a process of preparing a trisaccharide compound (a type of $\text{Man}\beta 1 \rightarrow 4\text{GlcNP}^1\beta 1 \rightarrow 4\text{GlcNP}^2$) shown with the formula (III);



wherein P^1 is an OH-protecting group, as described above, P^2 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl, P^3 is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^{11} is an OH-protecting group selected from the group consisting of acetyl,

benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethylsilyl,

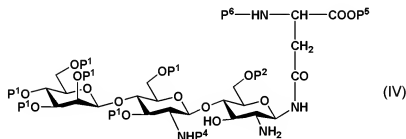
by a reaction of the product having the leaving group with amino-protected glucopyranoside shown with the formula;



wherein P², P³, and P¹¹ are the same as described above.

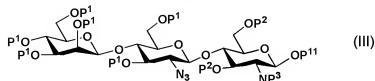
14. (Currently amended) The method for preparing a trisaccharide (Manβ1→4GlcNβ1→4GlcN) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein of claim 13, further comprising

(6) a process of preparing an asparagine-linked trisaccharide (Manβ1→4GlcNP¹β1→4GlcNP²) compound shown with the formula (IV);



wherein P¹ and P² are independently OH- protecting groups, as described above, P⁴ and P⁶ are independently amino-protecting groups selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P⁵ is a carboxyl-protecting group which is t-Bu,

by deprotecting the P¹¹ group of the compound (III),



wherein P^1 , P^2 and P^{11} are independently OH- protecting groups, as described above, and P^3 is an amino-protecting group, as described above,
 reducing the azide group to an amino group, protecting the amino group with an acetyl group,
 forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a reducing terminal, and coupling with a protected ~~aspartic acid~~ asparagine-derivative of the formula:



wherein P^5 and P^6 are the same as described above,
 after introducing a $-N=C=S$ group at the reducing terminal.